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(1st Semester)

BACHELOR OF COMPUTER APPLICATION

Paper : BCA–105

(Programming Language through C)

Full Marks : 75

Time : 3 hours

(PART : B—DESCRIPTIVE)

(*Marks* : 50)

*The figures in the margin indicate full marks
for the questions*

Answer *either* [*(a)* and *(b)*] *or* [*(c)* and *(d)*]

1. *(a)* What is a variable? Explain the basic
format for declaring a variable.   6

   (b) What is the difference between
expression and statement? Give
suitable examples.   4

   Or

   (c) List out the operator precedences and
their associativity.   6

   (d) Mention the difference between pre and
post in ++ and – – operators.   4

(*Turn Over*)

2. (a) Write a C program to find the sum of first 5 even and odd numbers using if...else statement. 6

(b) Explain the structure of 'for' loop using a simple example. 4

Or

(c) Mention the difference between the 'while' and 'do while' loops. 6

(d) Explain the syntax for the switch statement with a sample program. 4

3. (a) Explain the storage classes which can be used in a C program. 6

(b) Differentiate between the functions 'call by value' and 'call by reference'. 4

Or

(c) Write a C program to arrange the accepted numbers in ascending/ descending order using bubble sort. 6

(d) What is the difference between one-dimensional arrays and multi-dimensional arrays? 4

4. (a) Explain the declaration and initialization of a string variable. 4

(3)

(b) Write a C program to read a series of words from a terminal using 'scanf' function. 6

Or

(c) Write a C program using pointers to compute the sum of all elements stored in an array. 6

(d) Write a function using pointers to exchange the values stored in two locations in the memory. 4

5. *(a)* Define structure. What is the major distinction between arrays within structures and structures within structures? 6

(b) How does union differ from structures? 4

Or

(c) Explain various operations on files. 6

(d) What is a command-line argument? 4

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(1st Semester)

BACHELOR OF COMPUTER APPLICATION

Paper : BCA–105

(Programming Language through C)

(PART : A—OBJECTIVE)

(*Marks* : 25)

The figures in the margin indicate full marks for the questions

Answer **all** questions

SECTION—I

(*Marks* : 15)

1. Put a Tick (✓) mark against the correct answer in the brackets provided : 1×10=10

   (a) The characters in C are grouped into which of the following categories?

   (i) Letters ( )

   (ii) Digits ( )

   (iii) White spaces ( )

   (iv) All of the above ( )

(b) A valid identifier is

    (i) x1   ( )

    (ii) 123   ( )

    (iii) %   ( )

    (iv) {}   ( )

(c) The _____ statement tests the value of a given variable against a list of case values.

    (i) if...else   ( )

    (ii) while   ( )

    (iii) switch   ( )

    (iv) var   ( )

(d) The use of _____ statements in any of the loops is considered unstructured programming.

    (i) break and goto   ( )

    (ii) break and stop   ( )

    (iii) break and end   ( )

    (iv) break and continue   ( )

(3)

(e) Which of the following is not a derived data type?

    (i) Array   ( )

    (ii) Function   ( )

    (iii) Structure   ( )

    (iv) Pointer   ( )

(f) A _____ is a variable that is defined inside a function and used without having any role.

    (i) local variable   ( )

    (ii) universal variable   ( )

    (iii) global variable   ( )

    (iv) wide variable   ( )

(g) The process of assigning the address of a variable to a pointer variable is known as

    (i) variable pointers   ( )

    (ii) initialization   ( )

    (iii) pointers and arrays   ( )

    (iv) pointers and functions   ( )

(h) We have extensively used _____ function with % format to print strings to the screen.

    (i) scanf   ( )

    (ii) getchar   ( )

    (iii) printf   ( )

    (iv) putchar   ( )

(i) A/An _____ can handle only one member at a time.

     (i) structure   ( )

     (ii) union   ( )

     (iii) pointer   ( )

     (iv) array   ( )

(j) A _____ is used to read a character from a file.

     (i) putc( )   ( )

     (ii) getw( )   ( )

     (iii) getc( )   ( )

     (iv) putw( )   ( )

2. State whether the following statements are *True (T)* or *False (F)* by putting a Tick (✓) mark : 1×5=5

(a) Constants in C refer to fixed values that always change during the execution of a program.

(T / F)

(b) The if...else statement is an extension of the simple switch statement.

(T / F)

(c) Sorting is the process of arranging elements in the list according to their values in ascending or descending order.

(T / F)

(d) The value of a variable can be assigned to a pointer variable.

(T / F)

(e) A user can initialize individual members inside the structure template.

(T / F)

SECTION—II

(*Marks* : 10)

3. Answer the following questions :   2×5=10

    (a) What are the basic data types?

(b) What do you mean by infinite loop?

(c) Mention the storage classes of variable and explain.

(d) What is the difference between local and global variables?

(e) What are various operations on files?

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